

## The Cassini / Huygens Flyby of Jupiter

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The Cassini / Huygens spacecraft will fly by Jupiter December 30, 2000 en route to its final destination at Saturn in 2004. Jupiter science observations will span a 6 month period beginning October 1, 2000.

Although the Cassini flyby of Jupiter is at a relatively distant 140 R<sub>J</sub>, there are many important science objectives for the Jupiter flyby. One of the primary science goals will be to carry out a two-spacecraft investigation with Galileo of the influence of the solar wind on the Jovian magnetosphere. As Cassini approaches Jupiter it will be in the solar wind, while Galileo is deep in the magnetosphere. After closest approach, Galileo's orbit will take it out of the magnetosphere into the solar wind, while Cassini flirts with the edge of the magnetosheath. Opportunities have also been scheduled for joint observations of Jupiter's aurora with Hubble Space Telescope.

The slow approach offers the opportunity for the Cassini optical remote sensing instruments to assemble a time-lapse movie of Jupiter's atmosphere and of Io's torus. The remote sensing instruments will observe every other rotation of Jupiter for 70 days inbound. Approximately three weeks from closest approach the observational emphasis will switch from movies to thermal maps and higher resolution studies of the atmosphere. Outbound the movies will commence again approximately 3 weeks after closest approach.

Other important observations have been planned, including characterization of Io's dust stream structures and composition, observations of Jupiter's synchrotron emission in an energy range difficult to study from earth, ring studies, and satellite data at spectral ranges unavailable to Galileo instruments. This poster talk will offer an overview of the flyby geometry and summarize the science goals and observations of the Jupiter phase of the Cassini / Huygens mission.

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